What is claimed is:

1. A charged particle beam apparatus comprising a charged particle source and a charged particle optical system for focusing a beam of charged particles emitted by said charged particle source and scanning a sample with the focused beam, said apparatus further comprising:

optical axis control means for controlling the incident point of the charged particle beam on at least two stages of focusing lenses including an objective lens, wherein the incident position of the charged particle beam is controlled by said optical axis control means such that an off-axis chromatic aberration produced by the objective lens and that produced by other lenses cancel each other out.

2. A charged particle beam apparatus comprising a charged particle source and a charged particle optical system for focusing a beam of charged particles emitted by said charged particle source and scanning a sample with the focused beam, said apparatus further comprising:

optical axis control means for controlling the incident point of the charged particle beam on at least two stages of focusing lenses including an objective lens, wherein the incident position of the charged particle beam is controlled by said optical axis control means such that a coma aberration produced by the objective lens and that produced by other lenses cancel each other out.

3. A charged particle beam apparatus comprising a charged particle source and a charged particle optical system for focusing a beam of charged particles emitted by said charged particle source and scanning a sample with the focused beam, said apparatus further comprising:

optical axis control means for controlling the incident point of the charged particle beam on at least two stages of focusing lenses including an objective lens; and

lens control means for controlling a plurality of focusing lenses

independently, wherein

the focusing lenses are controlled by the lens control means and the incident position of the charged particle beam is controlled by the optical axis control means such that an off-axis chromatic aberration and a coma aberration produced by the objective lens and the other lenses cancel each other out.

4. The charged particle beam apparatus according to claim 1, wherein the charged particle beam is shone on the sample under observation at an angle with respect to the optical axis.

5. The charged particle beam apparatus according to claim 4, further comprising astigmatism correction means which is controlled in accordance with the inclination angle of the charged particle beam.

6. The charged particle beam apparatus according to claim 4, wherein the focal length of the objective lens is controlled in accordance with the inclination angle of the charged particle beam.

7. The charged particle beam apparatus according to claim 4, wherein an irradiated position error of the charged particle beam on the sample is corrected in accordance with the inclination angle of the charged particle beam.

8. The charged particle beam apparatus according to claim 1, wherein the focusing lenses other than the objective lens include a first lens and a second lens, the first lens having magnetic poles with a relatively large opening diameter and gap and the second lens having magnetic poles with a relatively small opening diameter and gap, and wherein

the first lens is excited when the charged particle beam is shone on the sample under observation parallel to the optical axis while turning off the first

lens, and the second lens is excited when the charged particle beam is shone on the sample at an angle with respect to the optical axis while turning off the first lens.

9. The charged particle beam apparatus according to claim 1, wherein the optical axis control means comprises an aperture and a transport mechanism for moving the aperture in a plane perpendicular to the optical axis.

10. A charged particle beam apparatus comprising a charged particle source and a charged particle optical system for focusing a beam of charged particles emitted by said charged particle source and scanning a sample with the focused beam, said apparatus further comprising:

a deflector disposed between the charged particle beam source and at least two stages of focusing lenses including an objective lens for deflecting the charged particle beam, wherein the deflector deflects the charged particle beam such that the aberration created by the objective lens and that created by the other lenses cancel each other out.

11. The charged particle beam apparatus according to claim 10, wherein the charged particle beam is shone on the sample under observation at an angle with respect to the optical axis.

12. A charged particle beam apparatus comprising a charged particle source and a charged particle optical system for focusing a beam of charged particles emitted by said charged particle source and scanning a sample with the focused beam, said apparatus further comprising:

an aperture mechanism transportable in a direction perpendicular to the optical axis, said aperture mechanism disposed between the charged particle beam source and at least two stages of focusing lenses including an objective lens,

whercin the aperture mechanism limits the passage of the charged particle beam such that the aberration produced by the objective lens and that produced by the other lenses cancel each other out.

13. The charged particle beam apparatus according to claim 12, wherein the charged particle beam is shone on the sample under observation at an angle with respect to the optical axis.

14. A method of irradiating a sample with a charged particle beam at an angle with respect to the optical axis, using a charged particle beam apparatus comprising a charged particle beam source and at least two stages of focusing lenses including an objective lens for focusing a beam of charged particles emitted by the charged particle beam source and scanning the sample with the charged particle beam, wherein the charged particle beam is incident on one of the at least two stages of focusing lenses which is closer to the charged particle beam source from a direction such that the aberration produced by the inclination of the charged particle beam is offset.